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Total Number of Pages in This Submission

3

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10/664,428

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First Named Inventor

Yuk Yiu Wong

Art Unit

Unknown

Examiner Name

Not Yet Assigned

Attorney Docket Number

90537

ENCLOSURES (check all that apply)

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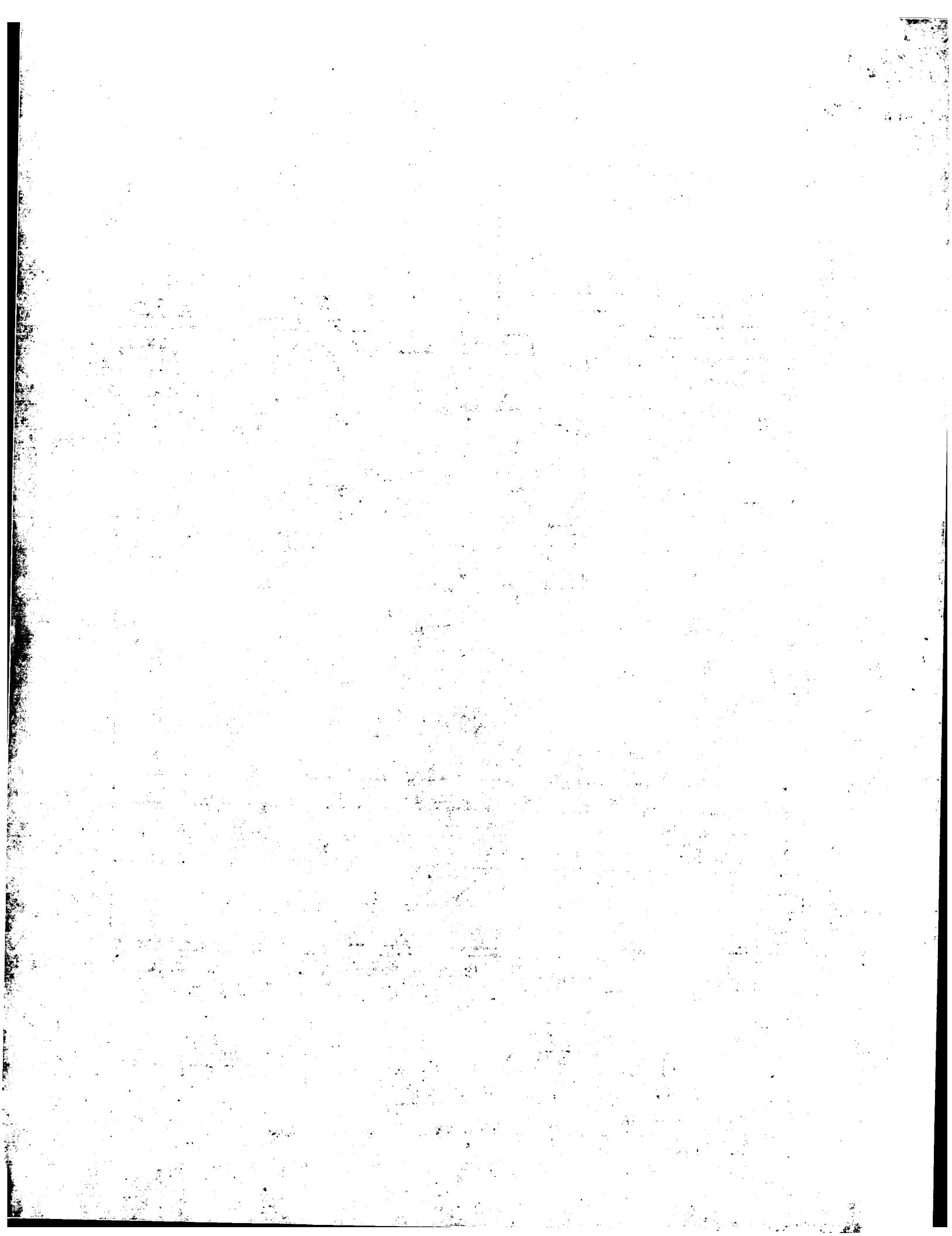
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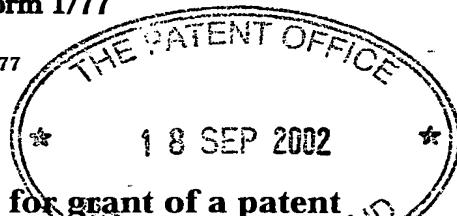
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19SEP02 E749373-2 D01914

MJN/CSM/67909

P01/7700 0.00-0221705.7

2. Patent application number

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0221705.7

3. Full name, address and postcode of the or of each applicant (underline all surnames)

 Yuk Yiu Wong
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Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

8467300001

4. Title of the invention

Water Cooled Cooking Range

5. Name of your agent (if you have one)

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 Southgate, Whitefriars
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 BRISTOL BS1 2NT

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Country

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Description	5
Claim(s)	2
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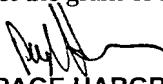
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Date 16/09/02

12. Name and daytime telephone number of person to contact in the United Kingdom

Craig Macpherson

0117 927 6634

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Water Cooled Cooking Range

The present invention relates to a water cooled cooking range in which the cooking surface area is movable relative to the cooking range body.

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Traditional water cooled cooking ranges have water running continuously onto the cooking surface area which helps to dispel the heat and wash away any food and grease spillage down the drains. Unfortunately, grease spillage, which can rarely be avoided, can cause drains to become blocked. This is not good for the premises or the environment and in addition, new health and 10 safety regulations have made it an offence to pour grease or fat into the soil drain.

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A further problem with traditional cooking ranges is the limited access to the underside of the range beneath the cooking surface area. To service or clean the range it is necessary to remove the front fascia panel in order to gain access to the serviceable parts such as the burners or the gas valve. This can be very awkward and consequently the range may need to be taken apart to be cleaned. It also means that many ranges are not properly cleaned and grease and debris can build up inside the range which poses an obvious health risk.

The present invention seeks to alleviate or reduce the above limitations.

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According to the present invention there is provided a water cooled cooking range comprising:
a cooking surface area;
a water supply arranged to provide a constant supply of water onto said cooking surface area;
an exit for the water from said cooking surface area; and
a cooking range body, wherein the cooking surface area is movable relative to the cooking range body.

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Having the cooking surface area movable relative to the range body enables users to gain easier access to the area under the cooking surface area and allows the cooking range to be more easily cleaned. Food debris and grease which gets into the area under the cooking surface area can build up on the burners and other parts. This improved access makes daily cleaning much easier and

also facilitates the maintenance of the serviceable parts which reduces service time and costs.

It is preferred that attachment means are provided to attach a portion of the cooking surface area to the cooking range body. The attachment means preferably comprises a pivot point and even more preferably the attachment means comprises a hinged portion. When this is the case it is preferred that at least two hinges are provided at locations spaced apart along an edge of the cooking surface area. Preferably the edge opposite the point where a user will stand has the hinged attachment. This enables a user to lift the cooking surface area upwards in order to gain access to the area under the cooking surface area. It will be necessary to drain the cooking surface area of any water before it is lifted.

The edge opposite the hinged edge is preferably provided with means for releasably connecting said cooking surface area to said cooking range body. This means may be in the form of a lockable latch. This feature enables the cooking surface area to be securely held in place when the cooking range is in use.

In a conventional commercial cooking range the cooking surface area may weigh up to 90kg. It would therefore be difficult for a single user to lift the cooking surface area. It is preferred that means is provided for moving the cooking surface area from a first position to a second position. The means may conveniently comprise a gas spring lifting mechanism. The first position referred to is the position in which the cooking surface area is substantially parallel to a floor surface on which the cooking range stands for use. The second position is the open position in which the cooking surface area pivots about the hinges such that the serviceable parts underneath the cooking surface area may be accessed. Preferably, the cooking surface area pivots through between 45° and 90°.

The water cooled cooking range may be a gas cooking range and it may be a wok cooking range.

For a better understanding of the present invention reference will now be made to the accompanying drawings showing, solely by way of example, an embodiment of the present invention and in which:

Fig. 1 shows a side view of a water cooled cooking range with the cooking surface area in the first, or closed, position.

5 Fig. 2 shows a side view of a water cooled cooking range with the cooking surface area in the second, or open, position.

Referring now to Fig. 1 this shows a water cooled cooking range 2 fabricated from heavy gauge high-grade stainless steel with a highly polished surface for easy cleaning.

10 The cooking range 2 has a body 4 supported by legs 6 which rest on a floor surface. The body 4 supports cooking surface area 8 which has a plurality of raised cooking rings 10 and a drain with a plug 12. The cooking surface area 8 rests on top of the body 4 such that, in use, it is substantially parallel with the floor surface. The cooking surface area 8 is actually inclined slightly with respect to the floor surface. The incline is such that the flow of water is directed 15 towards the cooking surface area drain in order that the cooking surface area 8 may be completely drained. The cooking surface area 8 and cooking rings 10 are formed by being pressed out on a 200 ton CNC hydronic power press, which produces the required shaped structure without needing welded joints.

20 A back plate 14 extends perpendicular to the cooking surface area 8 along the length of the body 4 and supports a spice shelf 16.

25 The cooking range 2 is also provided with a water supply (not shown) which is located on the back plate 14 and provides a constant supply of cold water onto the cooking surface area 8 around the rings 10 whilst the cooking range 2 is in use. For wok cooking in particular, it is necessary to have the cooking rings 10 at high temperatures. In order to dissipate some of the heat generated the cooking range 2 has water running continuously onto the cooking surface area 8 surrounding the cooking rings 10. Not only does this help to dispel the heat but it also helps to wash down any food or grease spilt onto the cooking surface area 8.

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The cooking range 2 is provided with a front drain gully 15 which receives an overflow of water from the cooking surface area 8. The front drain gully 15 directs the overflow into a chamber 17

located beneath the cooking surface area 8. The cooking surface area 8 is also in communication with the chamber 17 via the drain when the plug 12 is removed to enable complete draining of water from the cooking surface area 8 after use.

5. The interior of the chamber 17 is divided into two regions 19, 21 by a dividing wall 23. The dividing wall 23 is also made from heavy gauge high-grade stainless steel and extends from a first position 24 on the back wall of the chamber 17 just below the top surface 25 to a second position 26 just above the bottom surface 27 of the chamber 17. In addition to dividing the chamber 17 into two regions 19, 21 the dividing wall 23 also forms a collection tray 28 in the first 10 region 19. The collection tray 28 is in the form of a rectangular trough and in use a removable cartridge filter (not shown) will be placed in the tray 28. The removable cartridge filter would have a handle to facilitate its removal from the tray 28 in order to dispose of the hydrophobic waste material which has been collected.

15. A first portion of the dividing wall 23 is inclined upwards at an angle of approximately 45° from the bottom back corner of the chamber 17. A second portion of the dividing wall 23 incorporates the collection tray 28 and is physically attached to the chamber 17 at a point just below the top surface 25. This configuration means that the cross sectional area of the second region 21 is smaller at the bottom than it is at the top.

20. The first region 19 and the second region 21 are in communication with one another at a position adjacent the bottom surface 27. The drain plug 12 is located in the top surface 25 of the first region 19 of the chamber 17 and a waste outlet 29 is provided in the second region 21, located on the side wall 30 at a point intermediate the first 24 and second 26 positions of the dividing wall 23. A portion of the waste outlet 29 is lower than the collection tray 28. The area of the waste outlet 29 which is lower than the collection tray 28 must be sufficiently large such that the water flow out of the second region 21 of the chamber 17 is sufficient to ensure that the water within the chamber 17 does not overflow into the collection tray 28. The portion of the waste outlet 29 which is below the level of the collection tray 28 must therefore be capable of 25 permitting flow equal to that of the flow from the water supply, in normal use, such that equilibrium is attained. The waste outlet 29 is also provided with a valve 35.

30.

A waste filter tray 32 is provided in the first region 19 directly beneath the drain plug 12. The waste filter tray 32 is made of the same stainless steel as the cooking range 2 and has apertures to allow the flow of water into the chamber 17. The waste filter tray 32 has a filter 34 and is provided to filter out solid waste particles from the water/hydrophobic waste material as it enters the chamber 17.

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A main drain valve 33 is provided in the bottom surface 27 of the first region 19. This enables the chamber 17 to be completely emptied of water when not in use. This allows the chamber 17 to be thoroughly cleaned.

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Referring now to Fig. 2, this shows the cooking range 2 of Fig. 1 in which the cooking surface area 8 has been moved from the first position to the second position along the path indicated by the arrow 36. The cooking surface area 8 is attached to the body 4 at the rear, adjacent the back plate 14. The attachments are in the form of hinges 18 which enable the cooking surface area 8 to be moved from a first, or closed, position in which it is perpendicular to the back plate 14 and substantially parallel to the floor surface to a second, or open, position (see Fig. 2) in which the front edge of the cooking surface area 8 is lifted such that the cooking surface area 8 pivots about the hinges 18. This enables the user to gain access to the serviceable parts under the cooking surface area 8.

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Since the cooking surface area 8 in a commercial cooking range can weigh up to 90kg a gas spring lifting mechanism 20 is provided to lift the cooking surface area 8. One preferred gas pressured spring 20 is that made by Eckold. The gas pressured spring 20 should be selected taking into account the weight of the cooking surface area 8.

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Locking latches 22 are provided in the front inside edge of the cooking surface area 8. These latches 22 engage with corresponding portions 37 on the body 4 and ensure that the cooking surface area 8 remains in the first position when in use. In order to move the cooking surface area 8 from the first position to the second position the latches 22 are released and the gas pressured spring 20 lifts the cooking surface area 8.

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CLAIMS

1. A water cooled cooking range comprising:
a cooking surface area;
5 a water supply arranged to provide a constant supply of water onto said cooking surface area;
an exit for the water from said cooking surface area; and
a cooking range body, wherein the cooking surface area is movable relative to the cooking range body.

10

2. A water cooled cooking range according to claim 1, wherein attachment means are provided to attach a portion of the cooking surface area to the cooking range body.

15 3. A water cooled cooking range according to claim 2, wherein the attachment means comprise a hinged portion.

4. A water cooled cooking range according to claim 3, wherein a hinge is provided at two locations along an edge of the cooking surface area.

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5. A water cooled cooking range according to claim 4, wherein the opposing edge of the cooking surface area is provided with means for releasably connecting said cooking surface area to said cooking range body.

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6. A water cooled cooking range according to claim 5, wherein the means comprises a lockable latch which engages with a portion of the cooking range body.

7. A water cooled cooking range according to any preceding claim, wherein means is provided for moving the cooking surface area from a first position to a second position.

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8. A water cooled cooking range according to claim 7, wherein the means for moving the cooking surface area comprises a gas spring lifting mechanism.

9. A water cooled cooking range as hereinbefore described with reference to the accompanying drawings.

ABSTRACT

A water cooled cooking range (2) comprising a cooking surface area (8), a water supply arranged to provide a constant supply of water onto said cooking surface area (8), an exit (15) for the water from said cooking surface area (8) and a cooking range body (4), wherein the cooking surface area (8) is movable relative to the cooking range body (4).

(Fig. 2)

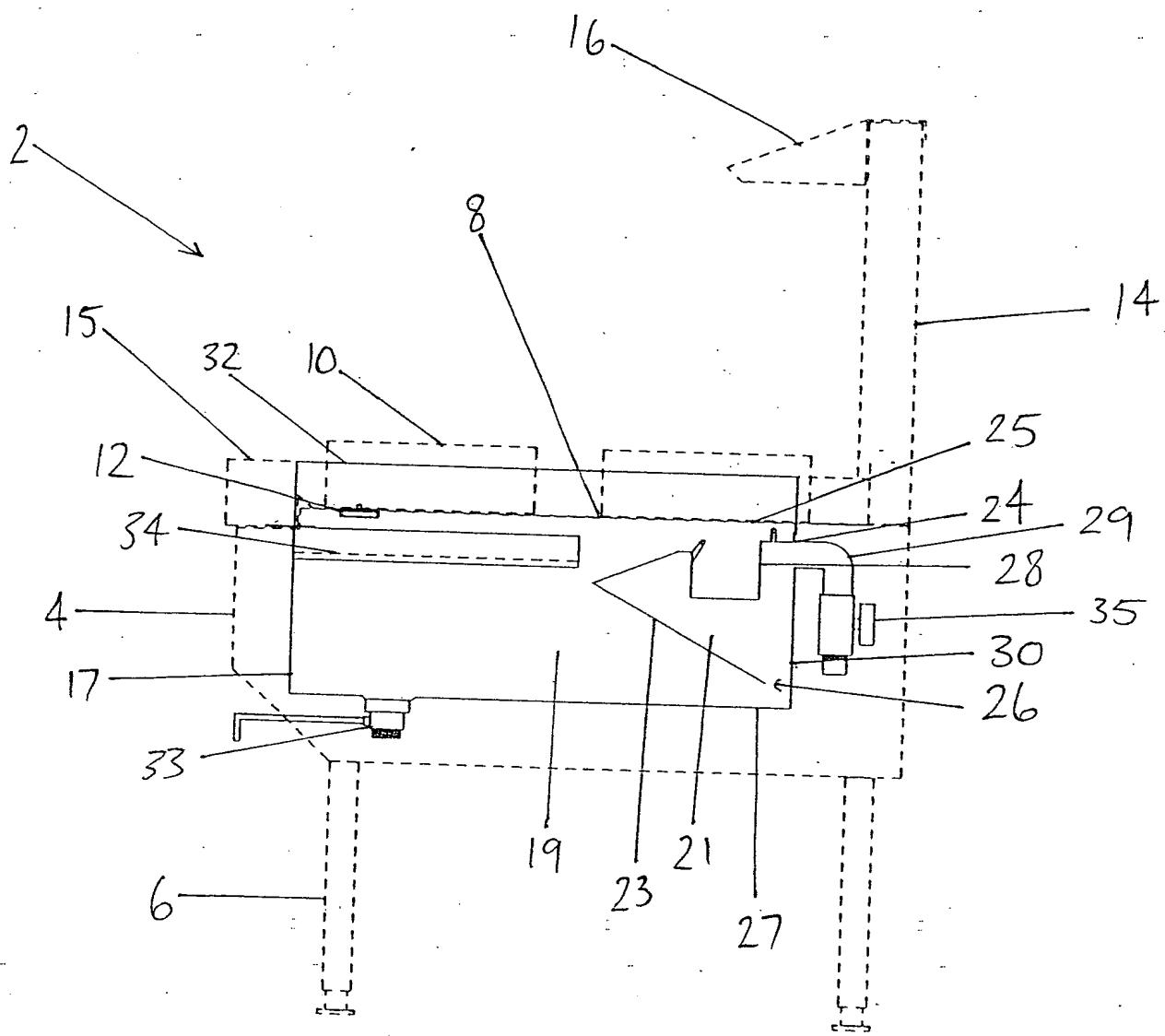
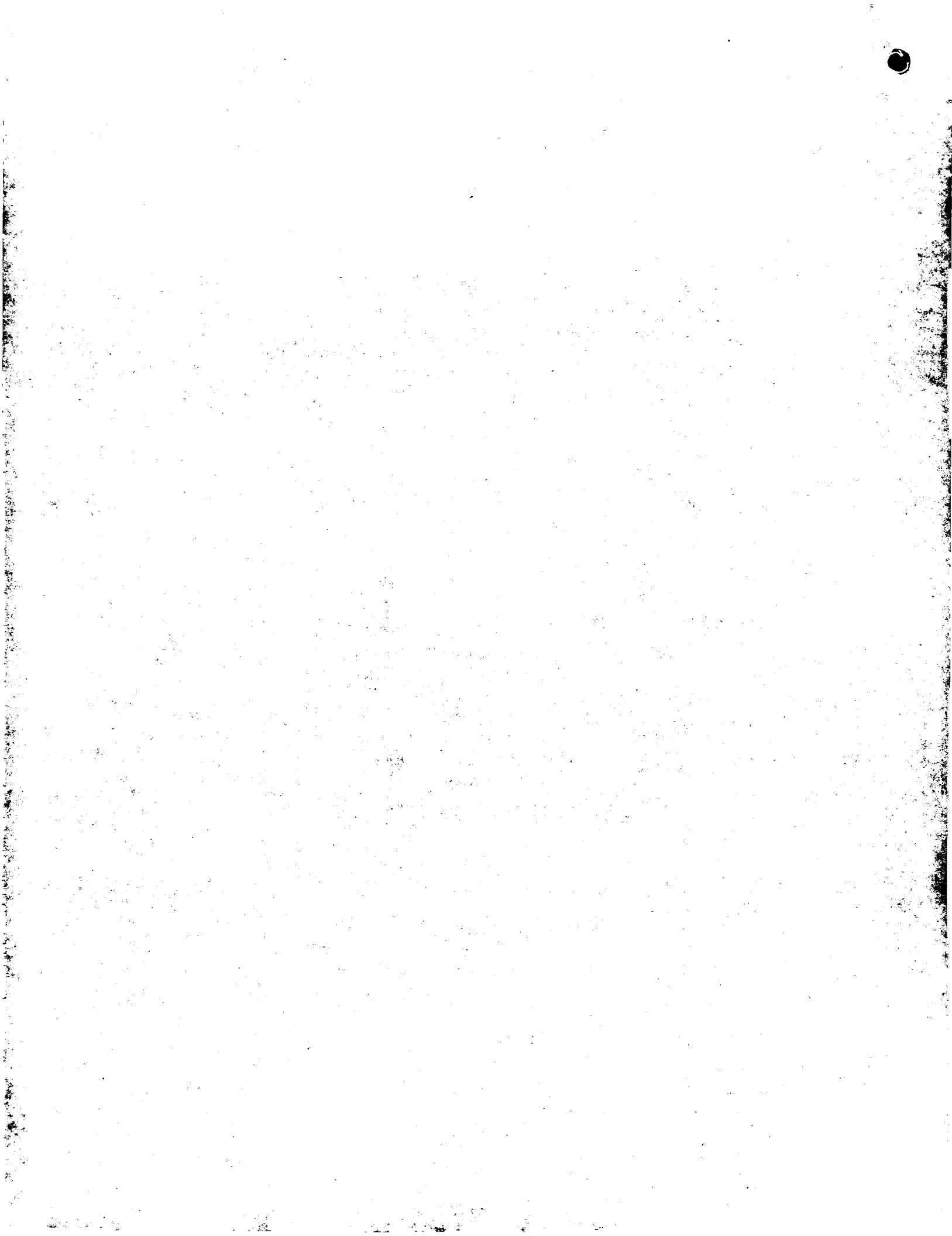


Fig. 1



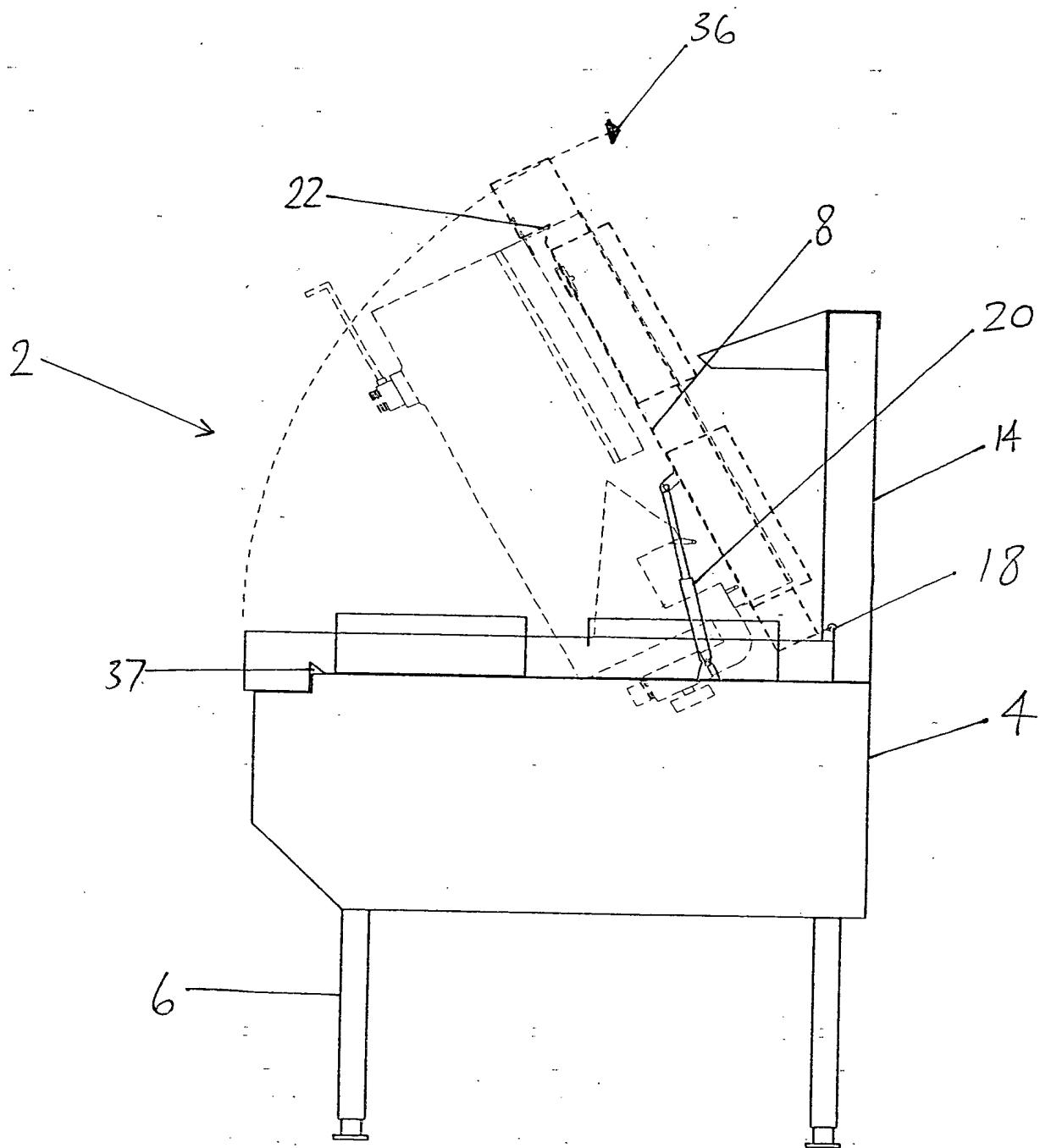


Fig. 2

